Unit 2 – Creating Systems To Manage Information

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Part A – Databases, Queries and Reports

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A2 - Queries

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A2.1 Query Basics

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Learning Objectives

To be explain what is meant by a query.

To be able to use the Query Builder to run simple single table queries in Microsoft™ Access.

To be able to create simple single table queries using basic search criteria.

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Before We Start

- Make sure that you :
- Are familiar with creating databases and tables in Microsoft™ Access.
- Have created the normalised Student database.
- If you do not have this, one has been provided for you.

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What Software Are We Using?

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Using Microsoft™ Access.

The software you are using in this exam is Microsoft™ Access.

It is one of the most popular desktop RDBMS programs in the world.

It is very good for small businesses and smaller offices.

It is not very good for large databases or web-based applications.

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Using Microsoft™ Access.

- Your Unit 2 Exam is a ***Practical Exam***.
- You will be expected to be able to use the Using Microsoft™ Access software.
- You will be expected to be able to create Tables, Queries, Reports and Forms.
- You will need this software downloaded at school and at home.

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Downloading Microsoft™ Access.

- Microsoft™ Access is free as part of the Office 365 suite of programs.
- Unlike Word and Excel, you ***cannot open it in a browser!***
- You must download and install it onto your computer.
- You will need to check to see where you are creating the database files.

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What Is A Query?

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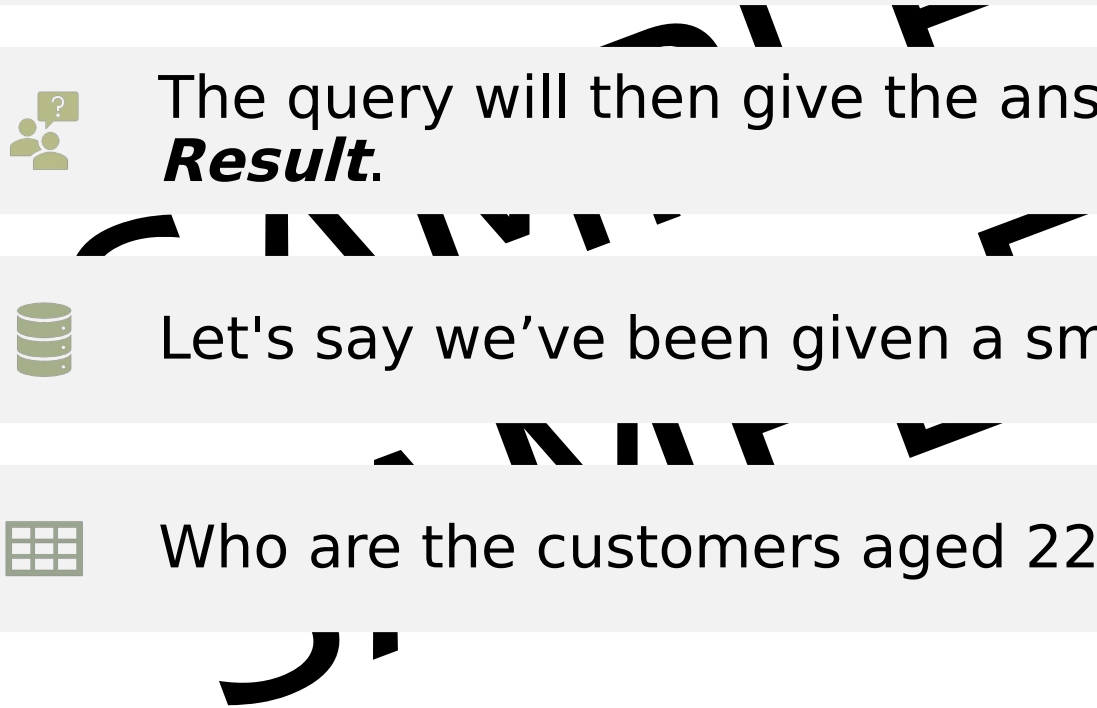
What is a Query?

A query is simply a question we ask our database.

The query will then give the answer – this is called the ***Query Result***.



Let's say we've been given a small table of customers.

Who are the customers aged 22?

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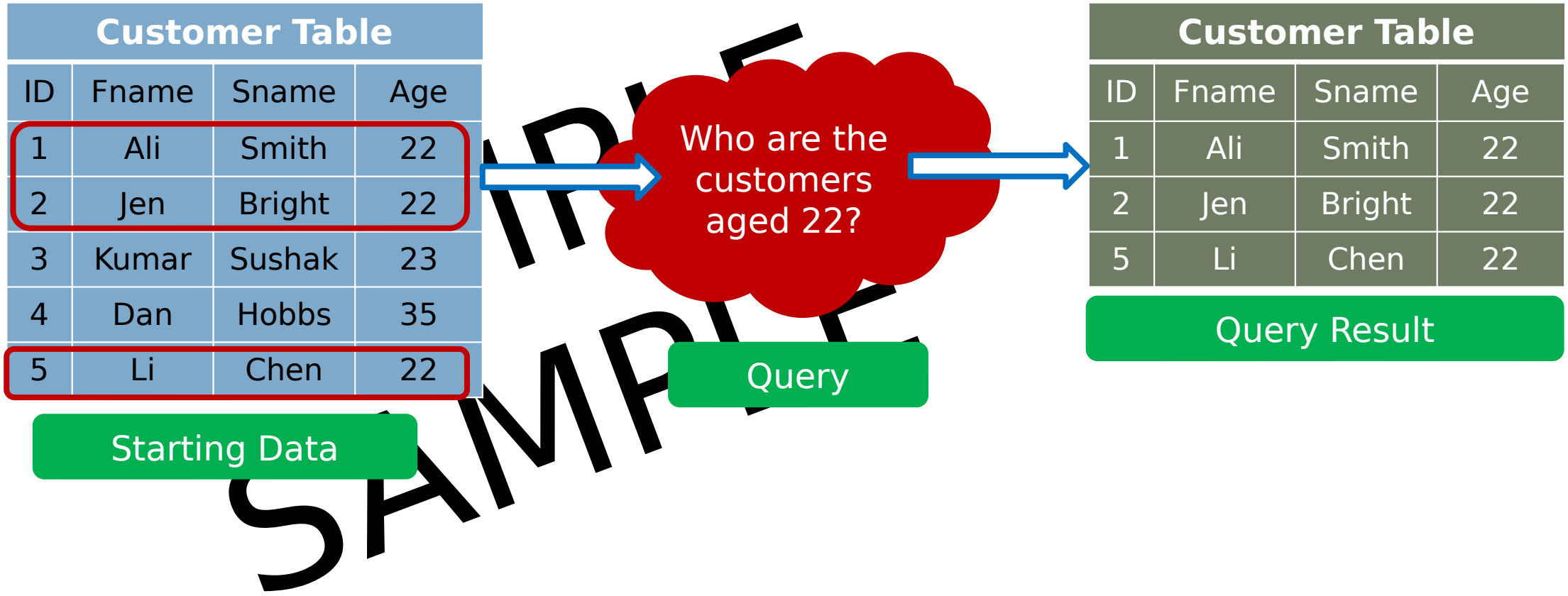
Query Example



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What is a Query?

Now, the answer looks fairly obvious.

We can work it out just by looking at our starting table.

However, what if the database had several thousand rows?

What if the query contained some complex mathematics?

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The Different Parts Of A Query

All queries are made up of the same four parts:

WHAT	Exactly what columns are to appear in the query result?
FROM	Which tables are the data coming from?
WHERE	What is the question being asked?
ORDER BY	How are the results to be displayed?

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Exam Tip – Creating Queries

- Look at the queries you will be asked to create in your exam.
- It will tell you exactly ***what data you need to show***.
- It will tell you how the ***data needs to be displayed***.
- Make sure you read the question and do exactly what it is asking.
- ***You will lose marks*** if you include too many columns or put the answer the wrong way round!

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Using the Access Query Builder

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Creating Queries

Before we begin creating queries, we will need a database.

For practice, we are using a sample Customer Order database.

It has a four tables – ***tblCustomers, tblProducts, tblProductCategory and tblProductOrder***

We are only going to user tblCustomers. Make sure you have this open on your computer.

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Customer Table Fields

Field Name	Description
CustomerID	The ID of the customer – the Primary Key
Fname	The first name
Sname	The last name
Age	The customer age
DOB	The customer Date of Birth
Rating	The rating of the customer based on sales. Over £3000 is platinum, £2000 - £3000 is gold, £1000 - £2000 is silver and anything lower is bronze
Total Sales	The total amount of goods purchased by each customer

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The Table - tblCustomers

tblCustomers

CustomerID	Fname	Sname	Age	DOB	Rating	Total_Sales
1	Jon	Smith	20	23/05/1980	Gold	2100
2	Jen	Smith	21	23/05/1979	Silver	1500
3	Ken	Ford	25	22/06/1975	Gold	2240
4	Lili	Harper	25	12/08/1975	Gold	2400
5	Lia	Ford	21	02/05/1979	Gold	2678
6	Kaylee	Middleton	22	12/10/1978	Bronze	678
7	Mustafa	Gill	30	01/02/1970	Platinum	4000
8	Mila	Hernandez	30	02/02/1970	Platinum	5000
9	Amaya	Mejia	25	22/08/1975	Silver	1750
10	Mahnoor	Mendez	21	23/04/1979	Silver	1300
11	Zoya	Trujillo	22	14/04/1978	Silver	1800
12	Alan	Briggs	30	01/09/1970	Gold	2120
13	Maia	Khan	30	11/03/1970	Gold	2200
14	Eliza	York	25	22/09/1975	Platinum	4140

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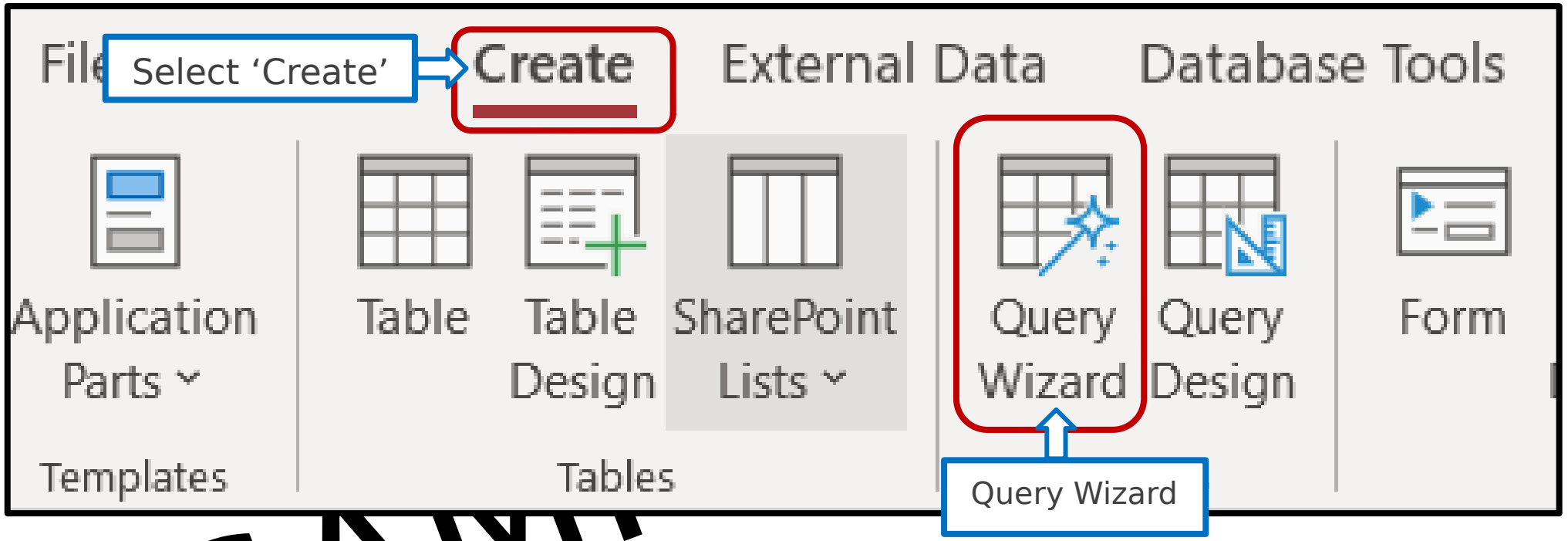
Using The Query Builder



Keep it simple – We will start with the Query Wizard!

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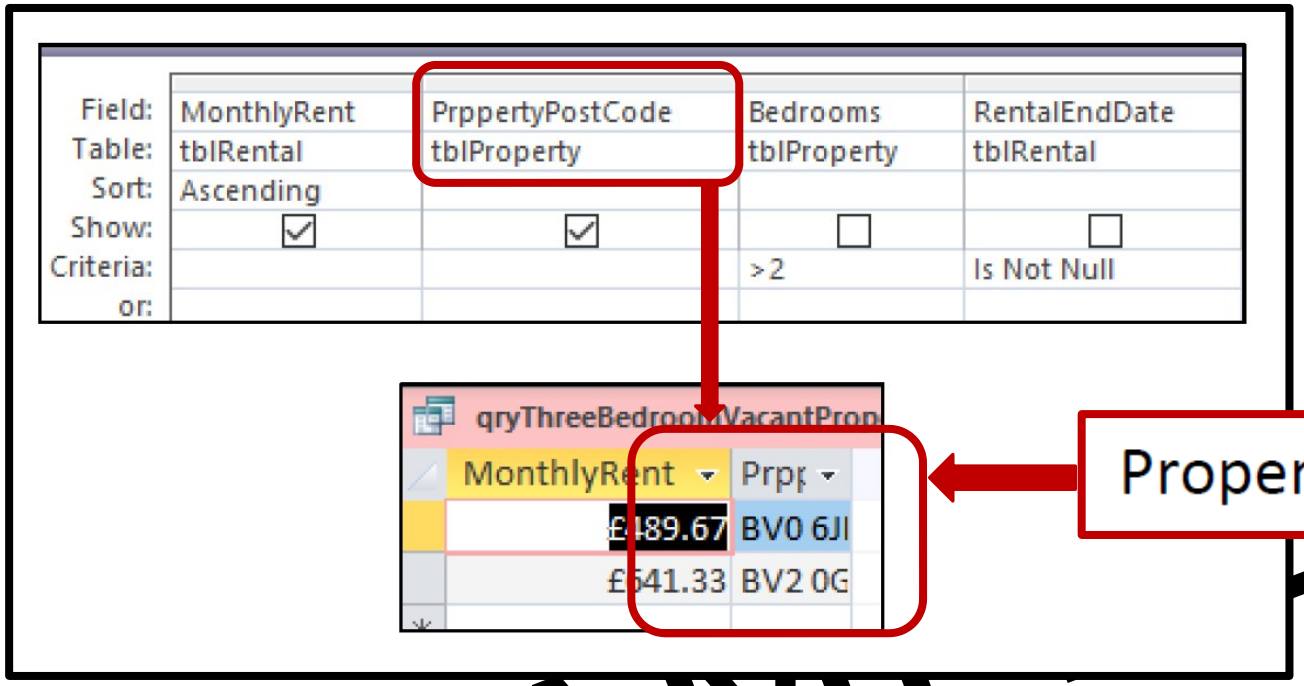
2019 Examiner Report – Query Design & Result


Field: MonthlyRent | PrppertyPostCode | Bedrooms | RentalEndDate
Table: tblRental | tblProperty | tblProperty | tblRental
Sort: Ascending
Show: ☑ ☑ ☐ ☐
Criteria: >2 | Is Not Null
or:
qryThreeBedroomVacantProp
MonthlyRent | Prpt
£489.67 | BV0 6JI
£541.33 | BV2 0G

Examiner marking – student scored no marks

PropertyPostcode is truncated (0 point)

Student screenshot evidence

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Video – Modifying Queries

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Class Tasks 2.1 –
Class Activities In Microsoft™ Access

Look at the tasks given to you based on the supplied Customer and Student databases.

For each scenario, create new queries to answer the specified questions.

Create appropriate screenshots showing the Query criteria and query results.

Time allowed: 65 minutes

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Self-Check: Lesson Review

- Do I understand how to create a simple query from a table?
- Can I open a query in design view?
- Can I add some basic query criteria?
- Can I sort data ascending and descending?
- Can I explain the difference between AND and OR in a query?

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Further Reading

Websites

https://support.microsoft.com/en-us/office/introduction-to-queries-a9739a09-d3ff-4f36-8ac3-5760249fb65c

Videos

https://www.youtube.com/watch?v=Xh30Xa9pvGM

Textbook: pp125 - 142

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Sample

This is a sample class presentation.

The vast majority of content, videos and information is missing.

The full version of this presentation is 109 slides and is available on purchase of the resource.

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